BX-5E2/5E3 User Manual

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Version history:

Version	Date	Author	Description
1.0	20012-6-27	Zhongli Qin	BX-5E2/5E3 controller user manual

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BX-5E2/5E3 User Manual

1. Products description

BX-5E2/5E3 support large area LED display screen, and it is widely used in many kinds of large area LED lintel display screen and LED cluster display system; Well, this product is mainly support network, like LAN and internet. So, it is the best choice for network single screen and cluster display system, which would satisfy many of your requirements.

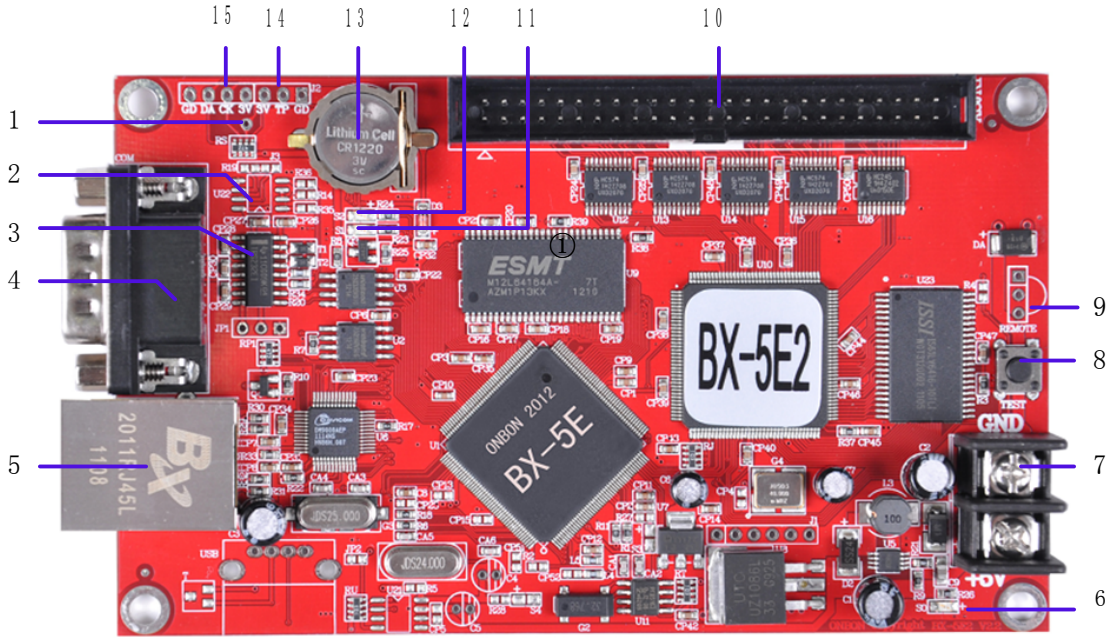
1.1 Function description

Storage capacity	4MByte
Adapter range	All sized single/double color LED display screen
Software function	Grouping cluster management/multi-program edit/ multi-area display/multi-language version
Program type	Common programs/ Sharing programs
Program quantity	Support 512 programs, and 32 areas/program
Area type	Image/text/animation/time/dial/timer/temperature/temperature & humidity/noise
Frame show	The most advanced colorful and magical program frame/area frame
Background composition	Support text background/picture background
Clock show	Dial/Chinese $ English clock/timer(all support multi-group display)
Communication port	100M Ethernet/RS232/RS485/USB, RS485 $ USB could be customized Two specifications: one: standard with RS232, another: standard with 100M Ethernet & RS232
Display port	2 nos 50pin port
Sensor support	Temperature/temperature & humidity/noise
Remote controller function	Select program/lock screen/adjust brightness/on & off/ screen text
Adjust brightness	16 grades bright, support automatic adjusting/ adjusting by software/ adjusting by remote controller
Remote control switch	Support timing automatic on & off/ on & off by software/ on & off by remote controller
Working voltage	5V
Maximum power	≤2.5W
Working temperature	-30℃～70℃
Application development	Offer completely functional DLL
Bundled software	LedshowTW2012
Using manual	" 5th generation multi-area LED Image&Test Controller user manual"
Display adapter	HUB256-T8 HUB128-T8 HUB256-T12 HUB128-T12

1.2 *Screen size*

Controller model	Controlling pixel	Screen size	Specification
BX-5E2	Single&double color 512k 点	4096*16 4096*96 4096*128 2048*128 2048*192 2048*256	1. 1 nos 50pin display sending port(height≤256 pixels) 2. When the height is about 128 pixels, then the wide should not over 2048 pixels
BX-5E3	Single&double color 1024k	4096*16 4096*128 4096*256 2048*128 2048*256 2048*512	1. 2 nos 50pin display sending port(height≤256 pixels) 2. When the height is about 256 pixels, then the wide should not over 2048 pixels

2. Interface/Port



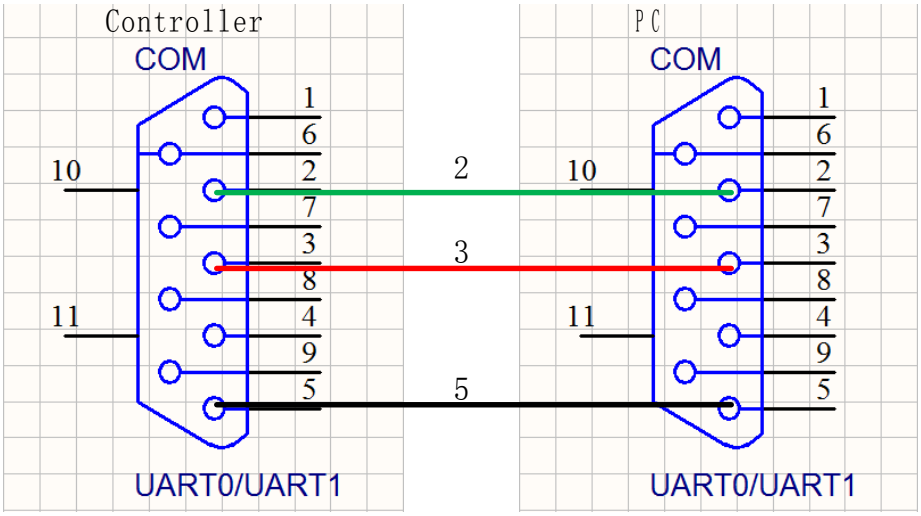
Number	Interface name	Description
1	Reset pin	Recover to factory status
2	RS485 chip	RS485 Serial port chip
3	RS232 chip	RS232 Serial port chip
4	DB9 port	Serial port DB9 port
5	Ethernet port	Ethernet port
6	5V power indicator light	Indicator light worked when power gets right, or it won't work
7	5V power port	Wide voltage: 3.5V-6,5V
8	Multi-functional switch	Support: 1) Test LED display screen 2) Select playing program
9	Infrared remote controller port	Connect infrared receiver, and operate the controllers by infrared remote controller
10	50 pin port	Support HUB T08/T12
11	Status indicator light S1	Indicator light working status
12	Status indicator S2	Not work now
13	RTC battery	RTC power supply battery; voltage: 3V
14	Temperature sensor port	Connect with18b20 temperature sensor
15	Temperature & humidity sensor port	Connect with temperature & humidity sensor

2.1 *Serial port*

Controller serial port is DB9, and the pins are like:

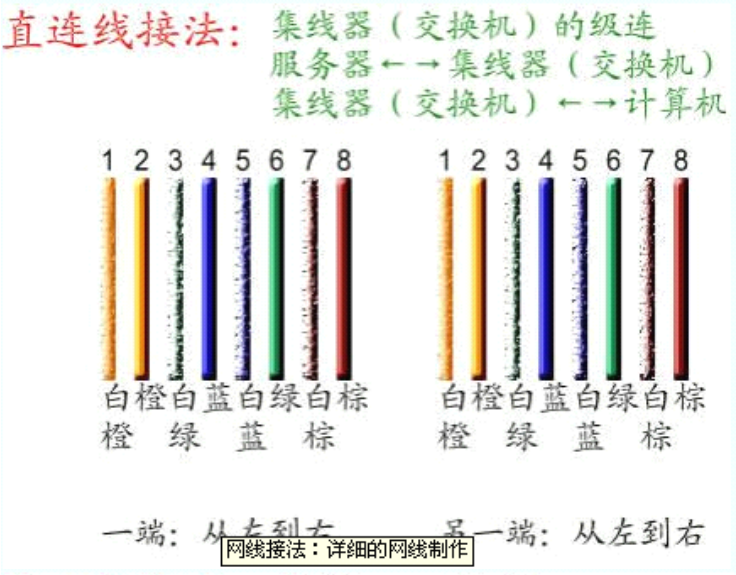
Pins No.	Pins name	Description
2	TXD	RS232 sending
3	RXD	RS232 receiving
5	GND	(RS232/485) power ground
7	DATA+	RS485 signal line
8	DATA-	RS485 signal line
Notes: Do not use other pins. The 232 communication mode uses 232 serial port straight through wire.		

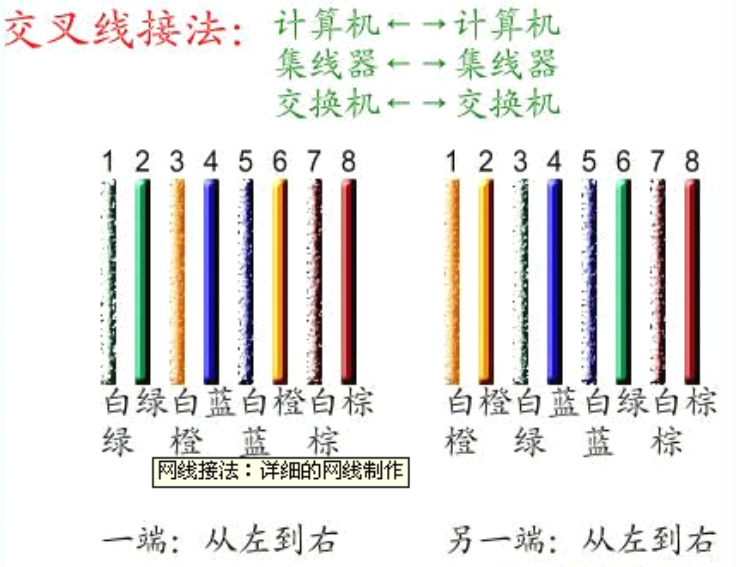
Controllers support 232 and 485 serial communication modes. When the controller (with 232 communication mode) connects with computer, use 232 serial port straight through wire. Showed as below:



2.2 *Ethernet port*

If controller uses RJ45 Ethernet port, then connects to computer Ethernet by reticle (or to router and switch Ethernet). And our controllers support these two reticle: straight through wire and cross wire. Reticle construction:

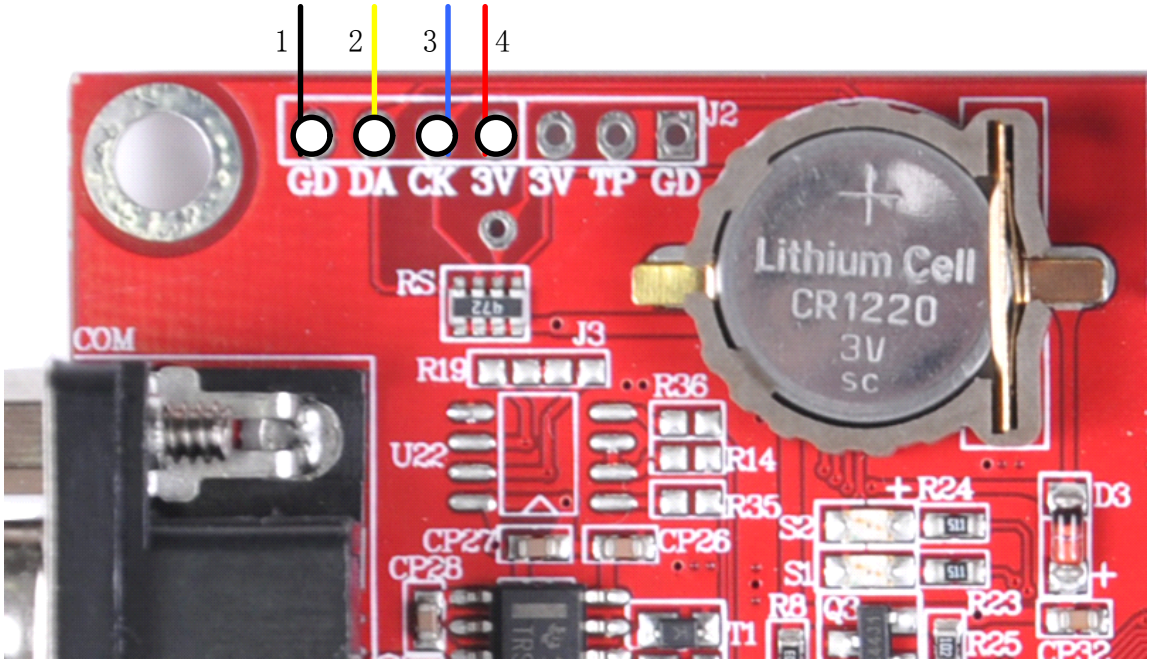




2.3 *Temperature & humidity sensor port*

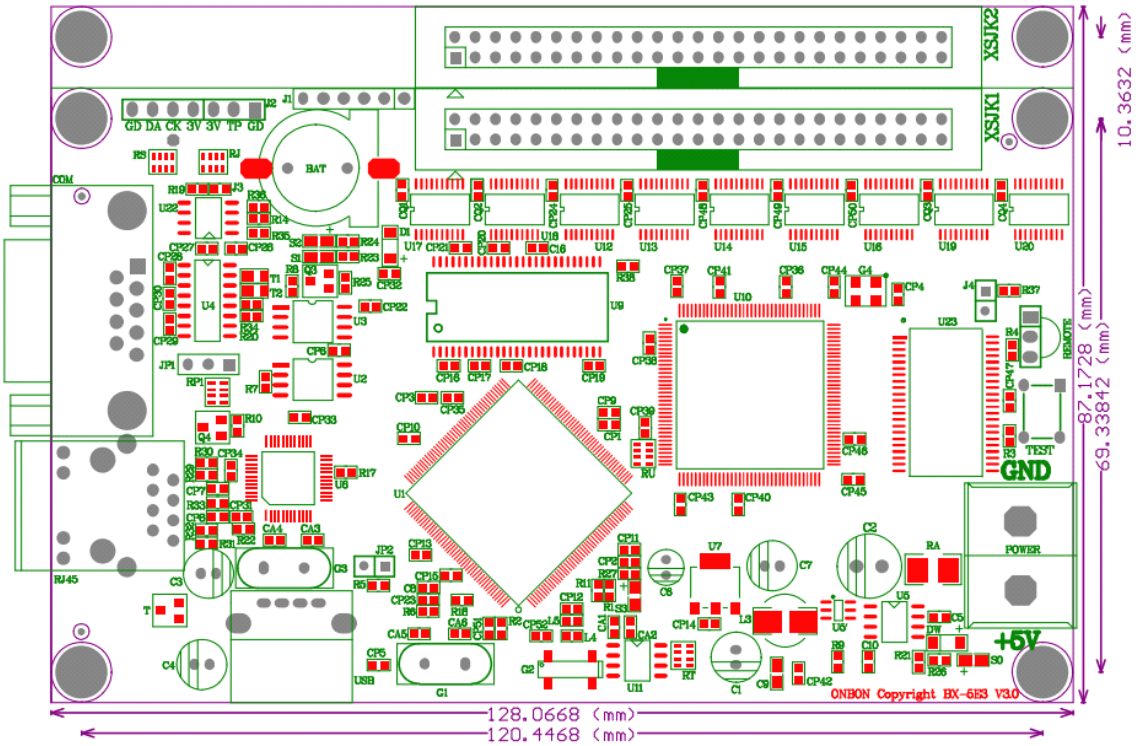
The temperature & humidity sensor port only supports our temperature & humidity sensor. Showed as below:

Number	Name	Specification
1	GD	Power grand line connects with the black line of temperature & humidity sensor
2	DA	Data line connects with the yellow line of temperature & humidity sensor
3	CK	Clock line connects with the blue line of temperature & humidity sensor
4	3V	Power line connects with the red line of temperature & humidity sensor


1
2
3
4
GD DA CK 3V 3V TP GD
J2
RS
J3
COM
R19
R36
U22
R14
R35
R24
D3
S2
S1
CP27
CP26
CP28
R8
Q3
R23
R25
T1
Lithium Cell
CR1220
3V
sc

3. Controller structure chart

The picture showed below is BX-5E3, specification of BX-5E2 is the same with BX-5E3.



4. DC feature

Working voltage: 4.5V~5.5V
Working electric current: ≤800mA
Power: ≤4W

5. Using steps

5.1 *Connect with controller and computer*

Controllers support 232/485 serial port and Ethernet port. You'd better ensure the communication mode according to the controller model and hardware before connect controller and computer.

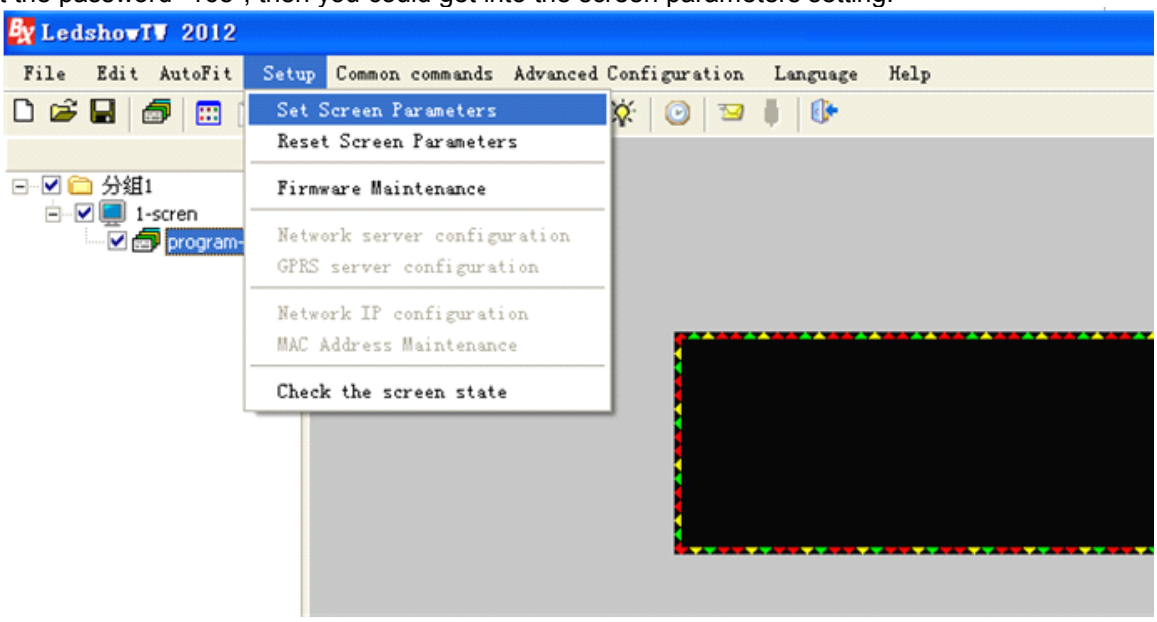
Controller is with two versions: serial port and Ethernet port. For Ethernet port controller, please connect the Ethernet port of computer with network cross wire or straight through wire, and be sure that the wire is worked. About the construction, please refer to " Ethernet port ".

For serial port controller, it is decided by the communication mode: 232 or 485. Please check the second and third ports on the controller, if it's with 232 chip, then controller is 232 communication; if it's with 485 chip, then controller is 485 communication. Please check the " Serial port " about the definition of serial port and connecting methods. Please ensure that the serial port line connecting correct before connect with the controller serial port and computer port.

After connecting with controller and computer, supplying 5V power to controller and then connects to the power port. Well, please check that the connecting line is worked, then start the controller. And if you are going to connect with LED display screen, you are supposed to let all connected : controller with 50pin port, HUB board and LED display screen, then start.

5.2 *Screen parameters and scan configuration*

Open the software " LedshowTW 2012 ", click " set screen parameters" on the " setup" menu, input the password "168", then you could get into the screen parameters setting.



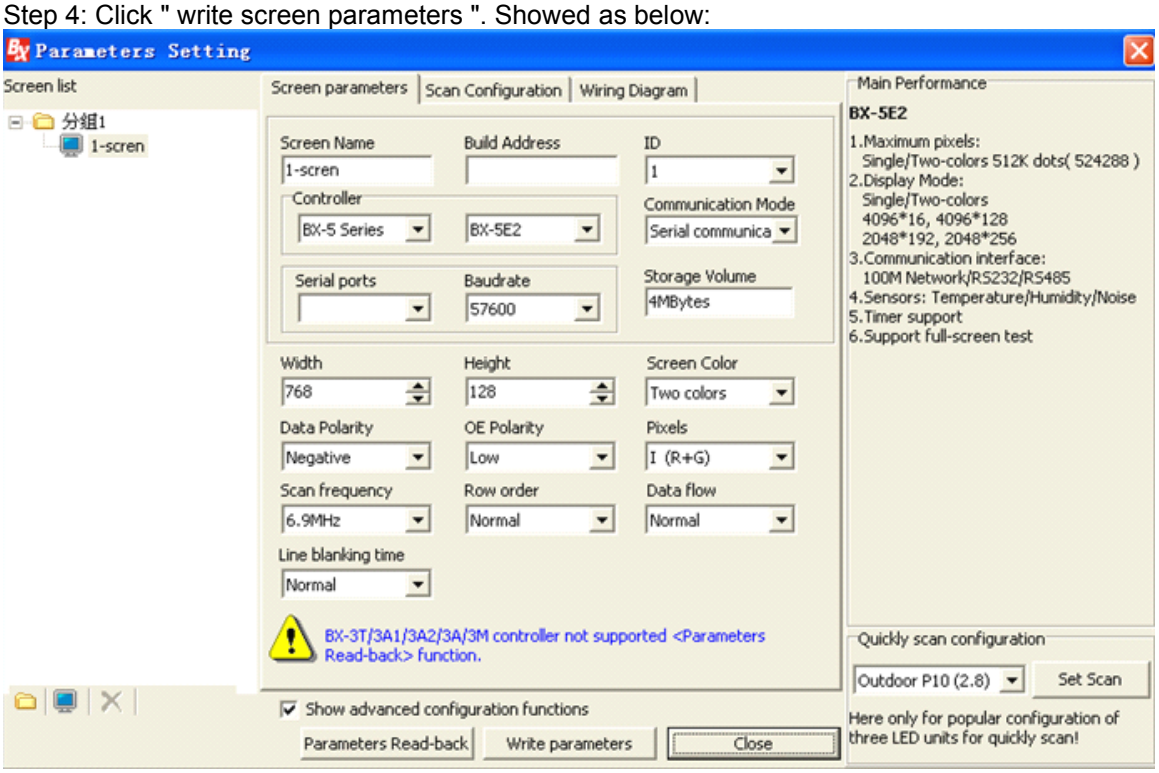
Set screen parameters, steps:

Step 1: Select a correct controller model, and usually, PC software could identify the controller model automatically if you connect right.

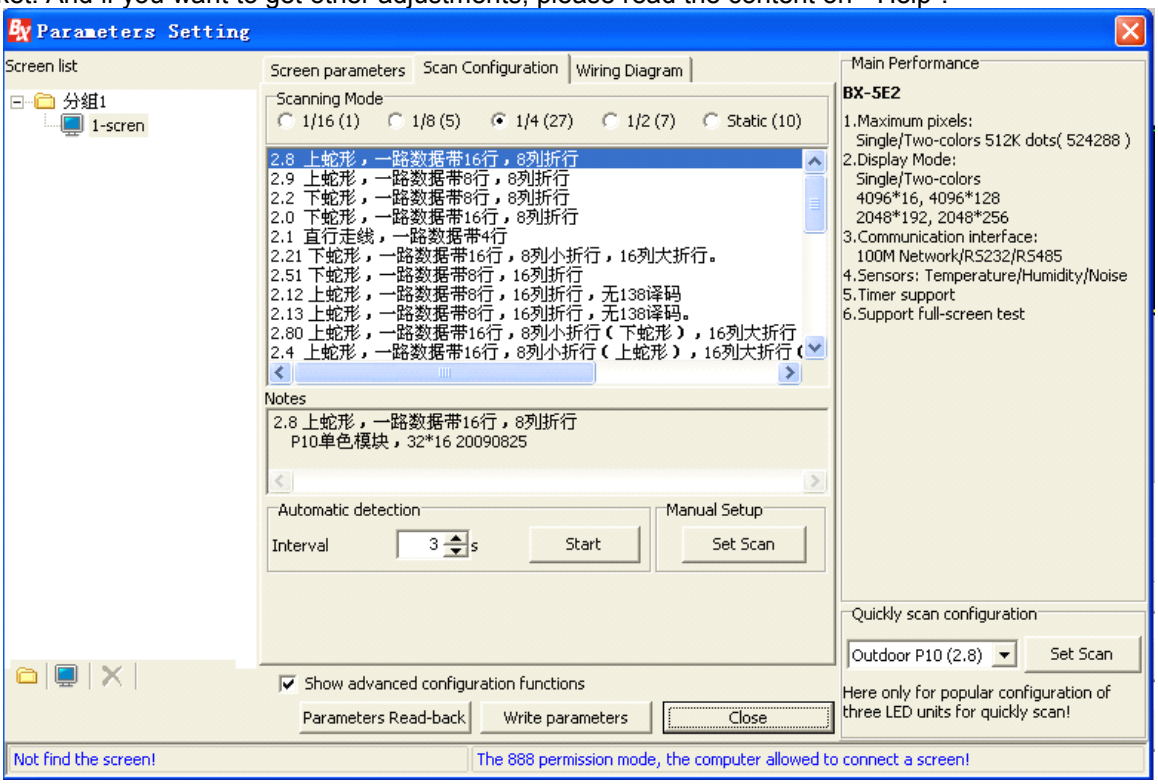
Step 2: Select a correct communication mode and configurate communication port parameters correctly.

Step 3: According to the different structure of the board, select a correct scan configuration file on " Quick scan", then click " write scan configuration".

Step 4: Click " write screen parameters ". Showed as below:

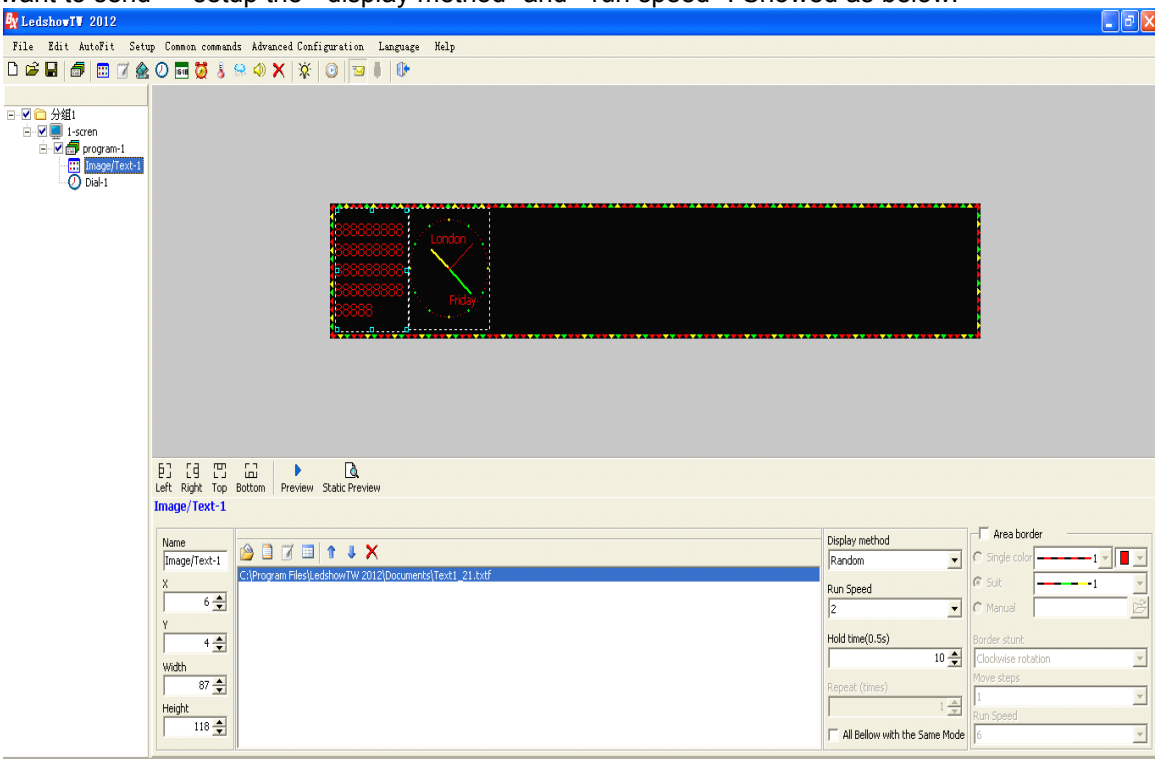


When you set scan configuration, if there's no scan configuration in your needs, then choose "scan configuration", it includes most of the display configuration files which is popular in the market. And if you want to get other adjustments, please read the content on " Help".

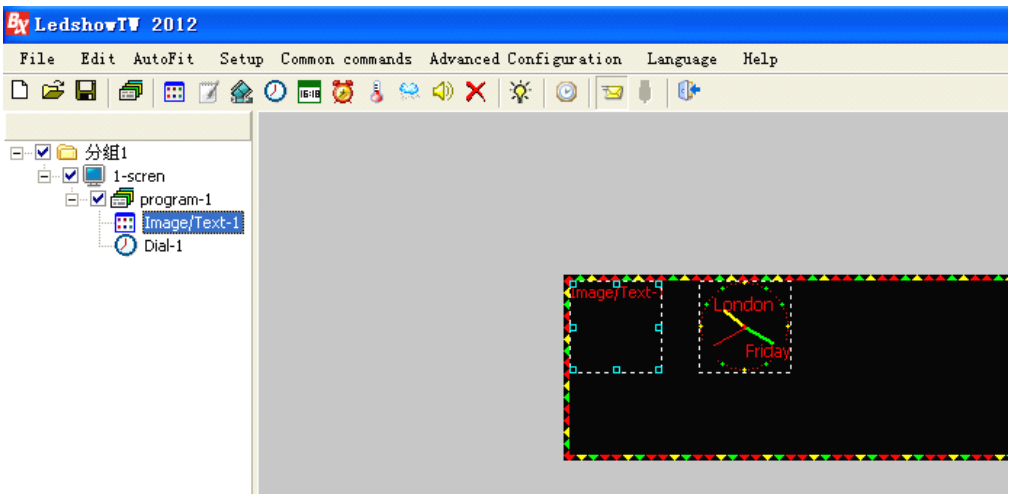


5.3 *Edit and send program*

Choose " program 1" on the left side, click " Image " on the tool bar as to add a Image area, click " Dial " as to add a dial area. Then, on the Image area, add a text and edit the informations you want to send → setup the " display method" and " run speed ". Showed as below:



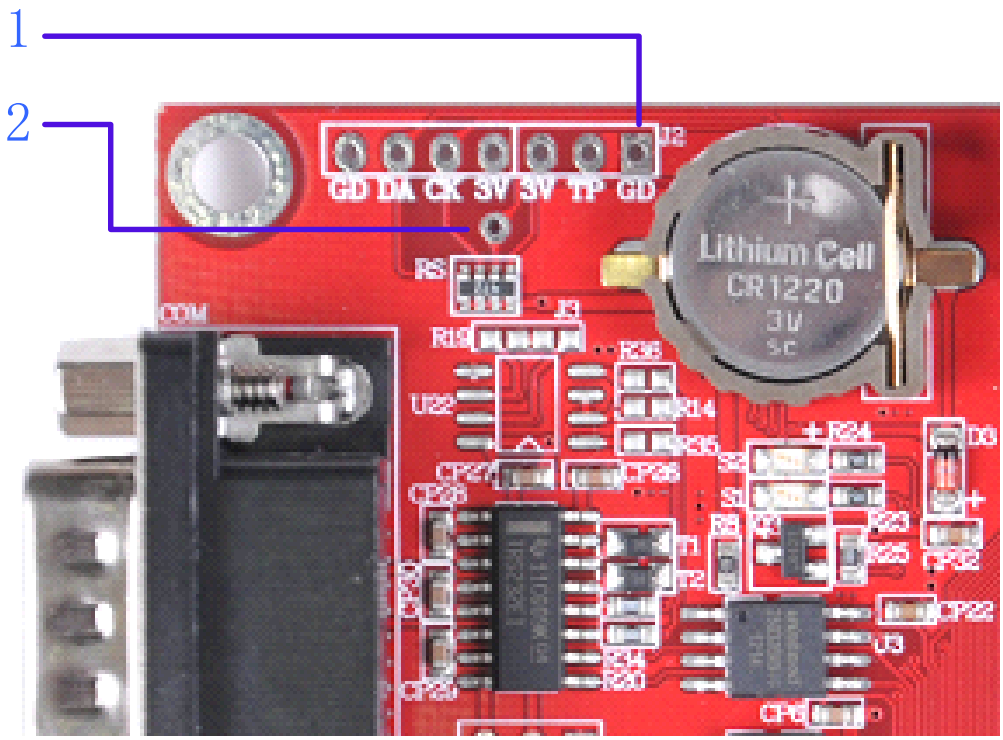
Click " send " on the tool bar as to send the present program.



The above just tell you how to edit and send program, if you want to know more, please read the content on " Help ".

6. Recover to factory firmware

Sometimes, the controller may shut down, and cannot communicate successfully, then, you need to recover to factory firmware. Operations: Interrupt the power of controller, then connect the reset pin and GD by wire → start till the light S1 worked → interrupt the two pins. Showed as below:



Number	Name	Specification
1	GD	Power ground
2	Recover to factory status	Recover to factory status, with low power

7. Bug checking

7.1 *Status indicator light S1*

The indicator light S1 is used for indicating the driving status of controller, showed as below:

Status No	Status indicator light S1	Specification
1	Blink every 3 seconds	Controller worked
2	Blink every 0.1 seconds	Something wrong with time and data of the controller
3	Blink every 1 seconds	The controller firmware disappeared

7.2 Common bugs

Bug No.	Bug phenomenon	Solving methods
1	Power indicator light does not work	Check the power connecting line, text the power voltage, as to ensure all of them are in normal.
2	Status indicator light S1 does not work	Please check that the power supply is normal, and check the board, is there any component dropped.
3	Communication with software failed	Please check that the software parameters setting, the communication line and the communication port of computer are correct or not,
4	Controller's time wrong	Open the software and timing.
5	The time cannot be saved after timing	Change RTC battery.
6	Data wrong in temperature and humidity area	Please check that the connecting line of temperature & humidity sensor is correct, then reweld the sensor.
7	Status indicator light S1 prompts something wrong; led screen display normal.	Please check that is there any cold joint or burn of controller's hardware, then change the damaged components.
8	Status indicator light S1 prompts something wrong; led screen prompts " ERRO019".	Controllers damaged, you'd better return it to our factory to have a test.
9	Status indicator light S1 prompts something wrong; led screen prompts " bug in memorizer ".	Controllers damaged, you'd better return it to our factory to have a text.

7.3 *Notes*

- BX-5E2/5E3 with 5V power supply, and pay more attention that do not reverse
- Please do not insert or draw out the serial port, Ethernet and 50pin port with power.
- Store the controllers in a dry and shade place.

8. Contact us

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Routes:
1) Metro ninth line: Caohejing station, No.1 exit, then walk for about 10 minutes.
2) Bus route: 205 or 257 to Guiping road Qingjiang road.